

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 63-252420

(43)Date of publication of application : 19.10.1988

(51)Int.Cl. H01L 21/205

(21)Application number : 62-085741 (71)Applicant : NEC CORP

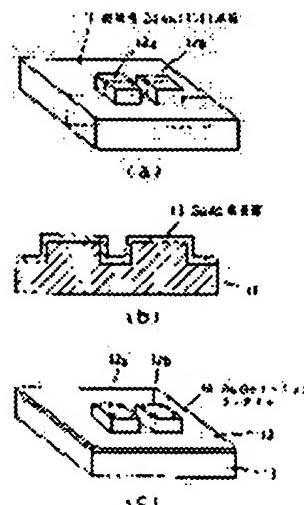
(22)Date of filing : 09.04.1987 (72)Inventor : IWATA NAOTAKA

(54) COMPOUND SEMICONDUCTOR CRYSTAL AND MANUFACTURE THEREOF

(57)Abstract:

PURPOSE: To facilitate electrical isolation between elements by a method wherein the atomic layer epitaxial growth of III-V compound semiconductor is achieved by supplying group III raw gas and group V raw gas to a substrate alternately.

CONSTITUTION: Plateau shape structures 12a and 12b whose side walls are composed of surfaces equivalent to the face (110) are formed on an insulating GaAs (111) substrate 11. The atomic layer epitaxial growth of 1000 times for each layer is performed at 450° C with GaCl and AsH₃ as a group III raw gas and a group V raw gas respectively. The thickness of a GaAs growth layer 13 obtained by slant polishing is 3300 Å on a face (111) and 2000 Å on a face (110). With this constitution, electrical continuity between the growth layers 13 of the adjacent plateau shape structures 12a and 12b is not found so that the complete electrical isolation between elements can be achieved.



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[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]